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IDENTIFIERS *Computer Assisted Design

ABSTRACT

This task list is intended for use in planning and/or evaluating a competency-based course in drafting. The tasks required to perform the duties of seven types of drafters (i.e., general, architectural, electronic, civil, structural, mechanical, and process pipe drafters) and technical illustrators are outlined. The following are among the duties covered in the individual sections of the guide: recognizing the fields of drafting; using and maintaining basic drafting equipment and machines; demonstrating correct lettering techniques; constructing orthographic views; using basic geometric construction and reproduction processes; freehand sketching of orthographic and pictorial views; constructing pictorial and sectional drawings and auxiliary views; constructing intersections and developments; using inking techniques to construct drawings; solving mathematical problems related to drafting; and applying the principles of computer-aided design. The occupational duty/task lists are the result of an extensive two-step development process in which information on current occupational requirements was gathered from such sources as consortia, trade associations, and current curriculum materials and was then synthesized by industry representatives, vocational instructors, and state-level representatives. (MN)

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# DUTY TASK LIST

GENERAL DRAFTER
ARCHITECTURAL DRAFTER
ELECTRONIC DRAFTER
CIVIL DRAFTER
STRUCTURAL DRAFTER
MECHANICAL DRAFTER
PROCESS PIPE DRAFTER
TECHNICAL ILLUSTRATOR

CE051536

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OKLAHOMA OCCUPATIONAL TESTING CENTER

# OKLAHOMA OCCUPATIONAL TESTING CENTER

**INTRODUCTION:**

Today's vocational instructors and administrators are faced with a myriad of important questions. They are searching for methods of providing accountability for students' acquisition of knowledge and skills as related to a constantly changing job market.

The Oklahoma Occupational Testing Center is in the business of eliminating some of the guesswork in answering today's tough questions. The professional staff, using a thorough and valid methodology, has developed duty/task lists for over 150 occupations in vocational education. Additional occupational duty/task lists will be made available as development is completed. These duty/task lists will help answer the following questions:

- Are students being prepared for today's jobs?
- What should today's vocational instructors be teaching?
- Is the curriculum addressing industry needs and is it up-to-date?
- How can vocational programs be improved?
- What in-service programs are needed for instructors?

**BACKGROUND:**

The occupational duty/task lists are the result of an extensive development process. Information regarding the occupational skills needed for employment is gathered from a number of sources such as consortia, trade associations, and current curriculum materials. This information is then synthesized by: 1) industry representatives, 2) vocational instructors, and 3) state level vocational representatives. The end result is a listing of occupations and the specific duties and tasks within each occupation. After dissemination for field review a committee of industry and vocational representatives revise the duty/task list to its final form.

**USES:**

The Oklahoma Occupational Testing Center's Duty/Task Lists are designed to be of value to a vocational program in several ways:

- Improving program planning
- Documenting industrial standards
- Evaluating curriculum and instruction
- Tracking individualized instruction*
- Using as a discussion tool with advisory committees
- Developing up-to-date job descriptions
- Performing self-evaluations
- Performing administrative program evaluations

**INFORMATION:**

To find out more about the Oklahoma Occupational Testing Center, call toll free:

**1-800-654-4502.**

Ask for our free catalog, listing over 150 occupations for which duty/task lists are available. CIMC curriculum materials related to these lists may also be available.

*A Progress Chart is provided for tracking individualized instruction.

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Oklahoma Occupational Testing Center

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veteran status, or qualified handicap.

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# PROGRESS CHART

## OKLAHOMA OCCUPATIONAL TESTING CENTER

Program

Oklahoma State Department of Vocational and Technical Education

Date

| Student Name | Duty/Task Code 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | |
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Accuracy Code

* 0 = No exposure - no information nor practice provided during training program; complete training required.
1 = Exposure only - general information provided with no practice time; close supervision needed and additional training required.
2 = Limited practice - has practiced during training program; additional training is required to develop skill.
3 = Moderately skilled - has performed independently during training program; limited additional training may be required.
4 = Skilled - can perform independently with no supervision.

This chart may be duplicated as needed.

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**This chart is intended for teacher file use only. Do not post.

# DUTY/TASK LISTS

# DRAFTING SERIES

## OCCUPATIONS:

1. General Drafter
2. Architectural Drafter
3. Electronic Drafter
4. Civil Drafter
5. Structural Drafter
6. Mechanical Drafter
7. Process Pipe Drafter
8. Technical Illustrator

OKLAHOMA OCCUPATIONAL TESTING CENTER

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 1: GENERAL DRAFTER

DUTIES:

A. Recognize the Fields of Drafting
B. Use and Maintain Basic Drafting Equipment and Machines
C. Demonstrate Correct Lettering Techniques
D. Construct Orthographic Views
E. Utilize Basic Geometric Construction
F. Utilize Reproduction Processes
G. Freehand Sketch Orthographic and Pictorial Views
H. Construct Pictorial Drawings
I. Construct Sectional Drawings
J. Construct Auxiliary Views
K. Construct Intersections and Developments
L. Construct Drawings Using Inking Techniques
M. Solve Mathematical Problems Related to Drafting
N. Apply Principles of Basic CAD

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**OCCUPATION:** GENERAL DRAFTER

**DUTY:** Recognize the Fields of Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Utilize Basic Geometric Construction**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Utilize Reproduction Processes**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** GENERAL DRAFTER

**DUTY:** Construct Pictorial Drawings

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** GENERAL DRAFTER

**DUTY:** Solve Mathematical Problems Related to Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **GENERAL DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 2: ARCHITECTURAL DRAFTER

DUTIES:

A. Recognize the Fields of Drafting
B. Use and Maintain Basic Drafting Equipment and Machines
C. Demonstrate Correct Lettering Techniques
D. Construct Orthographic Views
E. Utilize Basic Geometric Construction
F. Utilize Reproduction Processes
G. Freehand Sketch Orthographic and Pictorial Views
H. Construct Pictorial Drawings
I. Construct Sectional Drawings
J. Construct Auxiliary Views
K. Construct Intersections and Developments
L. Construct Drawings Using Inking Techniques
M. Solve Mathematical Problems Related to Drafting
N. Apply Principles of Basic CAD
O. Apply Principles of Architectural Drafting

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**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Recognize the Fields of Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Utilize Basic Geometric Construction**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Utilize Reproduction Processes**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Pictorial Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Solve Mathematical Problems Related to Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

**OCCUPATION: ARCHITECTURAL DRAFTER**

**DUTY: Apply Principles of Architectural Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| 0.01 | Construct commercial preliminary presentation sketches, site layouts, elevations, and sections | | |
| 0.02 | Construct drawings of commercial wall and roof sections | | |
| 0.03 | Construct drawings of commercial stair details (steel and concrete) | | |
| 0.04 | Construct commercial shaft section drawings (elevator, ventilator, utility) | | |
| 0.05 | Construct commercial interior elevation drawings | | |
| 0.06 | Construct commercial electrical detail drawings | | |
| 0.07 | Sketch residential preliminary layouts | | |
| 0.08 | Construct plot plans | | |
| 0.09 | Design and construct residential floor plan | | |
| 0.10 | Dimension floor plans | | |
| 0.11 | Construct foundation/basement plans | | |
| 0.12 | Construct floor framing plans | | |
| 0.13 | Construct typical wood frame wall section drawings | | |
| 0.14 | Construct architectural elevation drawings | | |
| 0.15 | Construct residential roof framing plans | | |
| 0.16 | Construct residential electrical plans | | |
| 0.17 | Calculate residential electrical load requirements | | |
| 0.18 | Construct architectural plumbing system plans | | |

**OCCUPATION:** **ARCHITECTURAL DRAFTER**

**DUTY:** **Apply Principles of Architectural Drafting (Continued)**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| 0.19 | Construct heating, ventilation, and air conditioning system drawings | | |
| 0.20 | Construct drawings of window and door details and sections | | |
| 0.21 | Prepare window, door, and finish schedules | | |
| 0.22 | Construct fireplace/chimney detail drawings | | |
| 0.23 | Construct drawings of cabinet details | | |
| 0.24 | Construct stair detail drawings | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 3: ELECTRONIC DRAFTER

DUTIES:

A. Recognize the Fields of Drafting
B. Use and Maintain Basic Drafting Equipment and Machines
C. Demonstrate Correct Lettering Techniques
D. Construct Orthographic Views
E. Utilize Basic Geometric Construction
F. Utilize Reproduction Processes
G. Freehand Sketch Orthographic and Pictorial Views
H. Construct Pictorial Drawings
I. Construct Sectional Drawings
J. Construct Auxiliary Views
K. Construct Intersections and Developments
L. Construct Drawings Using Inking Techniques
M. Solve Mathematical Problems Related to Drafting
N. Apply Principles of Basic CAD
P. Apply Principles of Electronic Drafting

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**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Recognize the Fields of Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** ELECTRONIC DRAFTER

**DUTY:** Construct Orthographic Views

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** ELECTRONIC DRAFTER

**DUTY:** Utilize Basic Geometric Construction

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Utilize Reproduction Processes**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |



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**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Construct Pictorial Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** ELECTRONIC DRAFTER

**DUTY:** Construct Sectional Drawings

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Solve Mathematical Problems Related to Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

**OCCUPATION:** **ELECTRONIC DRAFTER**

**DUTY:** **Apply Principles of Electronic Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| P.01 | Use electronic component symbols | | |
| P.02 | Draw integrated circuits (IC) | | |
| P.03 | Construct drawings of schematic diagrams | | |
| P.04 | Construct PC board drawing | | |
| P.05 | Calculate mathematical problems | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 4: CIVIL DRAFTER

DUTIES:

- A. Recognize the Fields of Drafting
- B. Use and Maintain Basic Drafting Equipment and Machines
- C. Demonstrate Correct Lettering Techniques
- D. Construct Orthographic Views
- E. Utilize Basic Geometric Construction
- F. Utilize Reproduction Processes
- G. Freehand Sketch Orthographic and Pictorial Views
- H. Construct Pictorial Drawings
- I. Construct Sectional Drawings
- J. Construct Auxiliary Views
- K. Construct Intersections and Developments
- L. Construct Drawings Using Inking Techniques
- M. Solve Mathematical Problems Related to Drafting
- N. Apply Principles of Basic CAD
- Q. Apply Principles of Civil Drafting

OKLAHOMA OCCUPATIONAL TESTING CENTER

**OCCUPATION:** CIVIL DRAFTER

**DUTY:** Recognize the Fields of Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** CIVIL DRAFTER

**DUTY:** Use and Maintain Basic Drafting Equipment and Machines

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** CIVIL DRAFTER

**DUTY:** Demonstrate Correct Lettering Techniques

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Utilize Basic Geometric Construction**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Utilize Reproduction Processes**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Construct Pictorial Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** CIVIL DRAFTER

**DUTY:** Construct Sectional Drawings

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Solve Mathematical Problems Related to Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **CIVIL DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

**OCCUPATION:** CIVIL DRAFTER

**DUTY:** Apply Principles of Civil Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| Q.01 | Illustrate types of civil drawings | | |
| Q.02 | Utilize appropriate scales | | |
| Q.03 | Recognize legal land descriptions | | |
| Q.04 | Interpret field data for drawings | | |
| Q.05 | Utilize mapping procedures | | |
| Q.06 | Construct topographic maps | | |
| Q.07 | Construct transportation maps | | |
| Q.08 | Construct municipal maps | | |
| Q.09 | Use basic surveying instruments | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 5: STRUCTURAL DRAFTER

DUTIES:

A. Recognize the Fields of Drafting
B. Use and Maintain Basic Drafting Equipment and Machines
C. Demonstrate Correct Lettering Techniques
D. Construct Orthographic Views
E. Utilize Basic Geometric Construction
F. Utilize Reproduction Processes
G. Freehand Sketch Orthographic and Pictorial Views
H. Construct Pictorial Drawings
I. Construct Sectional Drawings
J. Construct Auxiliary Views
K. Construct Intersections and Developments
L. Construct Drawings Using Inking Techniques
M. Solve Mathematical Problems Related to Drafting
N. Apply Principles of Basic CAD
R. Apply Principles of Structural Drafting

OKLAHOMA OCCUPATIONAL TESTING CENTER

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Recognize the Fields of Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Utilize Basic Geometric Construction**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Utilize Reproduction Processes**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Construct Pictorial Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

OCCUPATION: STRUCTURAL DRAFTER

DUTY: Construct Intersections and Developments

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

OCCUPATION: STRUCTURAL DRAFTER

DUTY: Solve Mathematical Problems Related to Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **STRUCTURAL DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

OCCUPATION: STRUCTURAL DRAFTER

DUTY: Apply Principles of Structural Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| R.01 | Draw AISC structural shapes | | |
| R.02 | Construct commercial roof plan drawings | | |
| R.03 | Construct beam connections | | |
| R.04 | Construct column connections | | |
| R.05 | Construct drawings of reinforced concrete and steel | | |
| R.06 | Calculate mathematical problems | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 6: MECHANICAL DRAFTER

DUTIES:
- A. Recognize the Fields of Drafting
- B. Use and Maintain Basic Drafting Equipment and Machines
- C. Demonstrate Correct Lettering Techniques
- D. Construct Orthographic Views
- E. Utilize Basic Geometric Construction
- F. Utilize Reproduction Processes
- G. Freehand Sketch Orthographic and Pictorial Views
- H. Construct Pictorial Drawings
- I. Construct Sectional Drawings
- J. Construct Auxiliary Views
- K. Construct Intersections and Developments
- L. Construct Drawings Using Inking Techniques
- M. Solve Mathematical Problems Related to Drafting
- N. Apply Principles of Basic CAD
- S. Apply Principles of Mechanical Drafting

OKLAHOMA OCCUPATIONAL TESTING CENTER

OCCUPATION: MECHANICAL DRAFTER

DUTY: Recognize the Fields of Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

OCCUPATION: MECHANICAL DRAFTER

DUTY: Construct Orthographic Views

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** MECHANICAL DRAFTER

**DUTY:** Utilize Basic Geometric Construction

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** MECHANICAL DRAFTER

**DUTY:** Utilize Reproduction Processes

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** MECHANICAL DRAFTER

**DUTY:** Construct Pictorial Drawings

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |



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**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

OCCUPATION: **MECHANICAL DRAFTER**

DUTY: **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

OCCUPATION: MECHANICAL DRAFTER

DUTY: Construct Drawings Using Inking Techniques

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Solve Mathematical Problems Related to Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

OCCUPATION: MECHANICAL DRAFTER

DUTY: Apply Principles of Mechanical Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| S.01 | Use drafting references and vendor's product catalogs | | |
| S.02 | Specify strength of materials in drawings | | |
| S.03 | Specify engineering materials in drawings | | |
| S.04 | Demonstrate shop processes | | |
| S.05 | Use precision measuring instruments | | |
| S.06 | Use and interpret engineering drawings (include revisions) | | |
| S.07 | Specify and construct drawings of fasteners | | |
| S.08 | Calculate tolerances, fits, and ratios | | |
| S.09 | Apply geometric dimensioning and tolerancing | | |
| S.10 | Construct simple working assembly drawings | | |
| S.11 | Construct spur, bevel, and worm gear drawings | | |
| S.12 | Construct cam drawings | | |
| S.13 | Construct detailed, schematic and simplified thread drawings | | |
| S.14 | Specify standard welding symbols in completing drawings | | |
| S.15 | Construct welding assembly drawings | | |
| S.16 | Construct casting drawings | | |
| S.17 | Construct forging drawings | | |
| S.18 | Construct spring drawings | | |
| S.19 | Construct mechanical working drawings | | |
| S.20 | Construct jig and fixture drawings | | |

**OCCUPATION:** **MECHANICAL DRAFTER**

**DUTY:** **Apply Principles of Mechanical Drafting (Continued)**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| S.21 | Construct tool and die drawings | | |
| S.22 | Construct assembly drawings using bearings and seals | | |
| S.23 | Construct mechanical power transmission drawings | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 7: PROCESS PIPE DRAFTER

DUTIES:

A. Recognize the Fields of Drafting
B. Use and Maintain Basic Drafting Equipment and Machines
C. Demonstrate Correct Lettering Techniques
D. Construct Orthographic Views
E. Utilize Basic Geometric Construction
F. Utilize Reproduction Processes
G. Freehand Sketch Orthographic and Pictorial Views
H. Construct Pictorial Drawings
I. Construct Sectional Drawings
J. Construct Auxiliary Views
K. Construct Intersections and Developments
L. Construct Drawings Using Inking Techniques
M. Solve Mathematical Problems Related to Drafting
N. Apply Principles of Basic CAD
T. Apply Principles of Process Pipe Drafting

OKLAHOMA OCCUPATIONAL TESTING CENTER

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Recognize the Fields of Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |



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**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Use and Maintain Basic Drafting Equipment and Machines**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Demonstrate Correct Lettering Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Utilize Basic Geometric Construction**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** PROCESS PIPE DRAFTER

**DUTY:** Utilize Reproduction Processes

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Pictorial Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Auxiliary Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Solve Mathematical Problems Related to Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

**OCCUPATION:** **PROCESS PIPE DRAFTER**

**DUTY:** **Apply Principles of Process Pipe Drafting**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| T.01 | Demonstrate techniques used in process pipe drafting | | |
| T.02 | Construct a flow diagram drawing | | |
| T.03 | Construct a plot plan and equipment layout drawing | | |
| T.04 | Construct a manufacturer's equipment fabrication drawing | | |
| T.05 | Construct valve drawings | | |
| T.06 | Construct pipe and pipe component drawings | | |
| T.07 | Construct a piping plan and elevation | | |
| T.08 | Construct isometric piping drawings | | |
| T.09 | Construct a special fabrication detail drawing | | |
| T.10 | Calculate mathematical problems | | |

# DUTY/TASK LIST

# DRAFTING SERIES

## OCCUPATION 8: TECHNICAL ILLUSTRATOR

DUTIES:
- A. Recognize the Fields of Drafting
- B. Use and Maintain Basic Drafting Equipment and Machines
- C. Demonstrate Correct Lettering Techniques
- D. Construct Orthographic Views
- E. Utilize Basic Geometric Construction
- F. Utilize Reproduction Processes
- G. Freehand Sketch Orthographic and Pictorial Views
- H. Construct Pictorial Drawings
- I. Construct Sectional Drawings
- J. Construct Auxiliary Views
- K. Construct Intersections and Developments
- L. Construct Drawings Using Inking Techniques
- M. Solve Mathematical Problems Related to Drafting
- N. Apply Principles of Basic CAD
- U. Apply Principles of Technical Illustrating

OKLAHOMA OCCUPATIONAL TESTING CENTER

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Recognize the Fields of Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| A.01 | Identify different drafting fields | | |
| A.02 | Use drafting media | | |
| A.03 | Use common symbols and abbreviations | | |
| A.04 | Draw the alphabet of lines | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Use and Maintain Basic Drafting Equipment and Machines

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| B.01 | Use drawing equipment (templates, leads, erasing) | | |
| B.02 | Use inking equipment | | |
| B.03 | Use scales (architect's, metric, civil, and mechanical) | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Demonstrate Correct Lettering Techniques

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| C.01 | Demonstrate lettering styles | | |
| C.02 | Demonstrate characteristics of good lettering | | |
| C.03 | Perform freehand lettering | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Construct Orthographic Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| D.01 | Use the six principle views | | |
| D.02 | Apply basic dimension techniques | | |
| D.03 | Demonstrate methods of projection | | |
| D.04 | Differentiate line precedence (priority) | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Utilize Basic Geometric Construction

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| E.01 | Bisect lines, arcs, and angles | | |
| E.02 | Construct angles | | |
| E.03 | Construct perpendicular and parallel lines | | |
| E.04 | Construct geometric shapes | | |
| E.05 | Construct drawings of tangent lines and arcs | | |
| E.06 | Construct drawings of ellipses | | |
| E.07 | Construct involutes | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Utilize Reproduction Processes

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| F.01 | Utilize reproduction media | | |
| F.02 | Select correct reproduction speeds | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Freehand Sketch Orthographic and Pictorial Views**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| G.01 | Utilize sketching materials | | |
| G.02 | Apply sketching techniques | | |
| G.03 | Illustrate the types of sketching | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Construct Pictorial Drawings

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| H.01 | Construct axonometric drawings | | |
| H.02 | Construct oblique drawings | | |
| H.03 | Construct perspective drawings | | |
| H.04 | Apply dimensioning techniques | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Construct Sectional Drawings**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| I.01 | Use sectional symbols | | |
| I.02 | Draw types of sections | | |
| I.03 | Apply dimensioning techniques | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Construct Auxiliary Views

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| J.01 | Show auxiliary methods | | |
| J.02 | Apply dimensioning techniques | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Construct Intersections and Developments**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| K.01 | Construct intersections | | |
| K.02 | Construct developments | | |
| K.03 | Construct revolution drawings | | |
| K.04 | Construct sheet metal assembly draw | | |
| K.05 | Calculate bend allowance | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Construct Drawings Using Inking Techniques**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| L.01 | Use inking equipment to construct drawings | | |
| L.02 | Maintain inking equipment | | |
| L.03 | Apply inking techniques | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Solve Mathematical Problems Related to Drafting

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| M.01 | Use conversion tables | | |
| M.02 | Calculate areas of objects | | |
| M.03 | Calculate volumes | | |
| M.04 | Calculate weights of objects | | |

**OCCUPATION:** **TECHNICAL ILLUSTRATOR**

**DUTY:** **Apply Principles of Basic CAD**

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| N.01 | Operate a CAD system | | |
| N.02 | Use CAD terminology | | |
| N.03 | Construct a two-dimension drawing | | |
| N.04 | Store and retrieve drawings | | |

**OCCUPATION:** TECHNICAL ILLUSTRATOR

**DUTY:** Apply Principles of Technical Illustrating

| CODE | TASK | TAUGHT | COMMENTS |
|---|---|---|---|
| U.01 | Construct pictorial drawings | | |
| U.02 | Construct perspective renderings | | |
| U.03 | Construct drawings of presentation floor plans | | |
| U.04 | Construct drawings of presentation elevation views | | |
| U.05 | Render designs using art mediums | | |
| U.06 | Illustrate landscape features | | |
| U.07 | Perform shading techniques | | |
| U.08 | Construct presentation models | | |